


After Final —  
OK TO ENTER  
  
11/17/2005

**IN THE CLAIMS:**

1. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein an image side surface of the third negative lens is the aspheric surface, the image side surface of the third negative lens is in contact with an air space, and a total of three lens elements are used.

2. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.95 < \Sigma d/f < 1.25 \quad \dots (1)$$

where  $\Sigma d$  is a distance on an optical axis of the image-formation optical system from an object side-surface of the first positive meniscus lens to an image plane side-surface of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

3. (original) The image-formation optical system according to claim 1, wherein said first positive meniscus lens satisfies the following condition:

$$0.3 < r_1/f < 0.6 \quad \dots (2)$$

where  $r_1$  is a radius of curvature on an optical axis of an object side-surface of the first positive meniscus lens, and  $f$  is a focal length of the image-formation optical system.

4. (currently amended) The image-formation optical system according to claim 1, which satisfies the following conditions:

$$0.5 < f_{12}/|f_3| < 1 \quad \dots (3)$$

$$0.7 < |f_3|/f < 1.8 \quad \dots (4)$$

$$0.7 < |f_3|/f < 1.8 \quad \dots (4)$$

where  $f_{12}$  is a composite focal length of the first positive meniscus lens and the second positive lens,  $f_3$  is a focal length of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

5. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$-1 < \text{EXP}/f < -0.5 \quad \dots (5)$$

where EXP is a paraxial exit pupil position as determined on the basis of an image-formation position of the image-formation optical system relative to an object point at infinity, and f is a focal length of the image-formation optical system.

6. (original) The image-formation optical system according to claim 1, wherein the second positive lens having an aspheric surface is made up of a plastic lens.

7. (original) The image-formation optical system according to claim 1, wherein the third negative lens having an aspheric surface is made up of a plastic lens.

8. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.98 < \Sigma d/f < 1.20 \quad \dots (1-1)$$

where  $\Sigma d$  is a distance on an optical axis of the image-formation optical system from an object side-surface of the first positive meniscus lens to an image plane side-surface of the third negative lens, and f is a focal length of the image-formation optical system.

9. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.32 < r_1/f < 0.55 \quad \dots (2-1)$$

where  $r_1$  is a radius of curvature on an optical axis of an object side-surface of the first positive meniscus lens, and f is a focal length of the image-formation optical system.

10. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.53 < f_{12}/|f_3| < 0.96 \quad \dots (3-1)$$

where  $f_{12}$  is a composite focal length of the first positive meniscus lens and the second positive

lens, and  $f_3$  is a focal length of the third negative lens.

11. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$0.75 < |f_3|/f < 1.3 \quad \dots (4-1)$$

where  $f_3$  is a focal length of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

12. (original) The image-formation optical system according to claim 1, which satisfies the following condition:

$$-0.8 < EXP/f < -0.6 \quad \dots (5-1)$$

where EXP is a paraxial exit pupil position as determined on the basis of an image-formation position of the image-formation optical system relative to an object point at infinity, and  $f$  is a focal length of the image-formation optical system.

13. (original) The image-formation optical system according to claim 1, wherein lenses having a refracting power are provided only by said first positive meniscus lens, said second positive lens and said third negative lens.

14. (original) An imaging system, comprising an image-formation optical system as recited in claim 1 and an electronic image pickup device located on an image side thereof.

15. (original) The imaging system according to claim 14, which satisfies the following condition:

$$55^\circ < 2\omega < 70^\circ \quad \dots (6)$$

where  $\omega$  is a half angle of view, and  $2\omega$  is a total angle of view.

16. (currently amended) The imaging system according to claim 14, which satisfies the following condition:

$$60^\circ < 2\omega < 67^\circ \quad \dots (6-1)$$

where  $\omega$  is a half angle of view and  $2\omega$  is a total angle of view.

17. (original) An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an image side thereof, wherein a total of three lens elements are used in said image-formation optical system, and said aperture stop has a fixed shape of aperture through which light rays pass, wherein an outer peripheral surface of said aperture is inclined in such a way as to taper down to an optical axis toward an image plane side.

18. (original) An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an image side thereof, wherein a total of three lens elements are used in said image-formation optical system, and there is provided a lens barrel for holding said image-formation optical system and said image pickup device, wherein said aperture stop is molded integrally of the same resin of which said lens barrel is molded.

19. (original) An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an image side thereof, wherein a total of three lens elements are used in said image-formation optical system, a lens barrel is provided for holding said image-formation optical system, and a peripheral surface of at least said third negative lens is inclined in such a way as to taper down to an optical axis toward the object side for abutment on said lens barrel.

20. (original) An imaging system comprising an image-formation optical system comprising, in order from an object side of said image-formation optical system, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, and an image pickup device located on an

image side thereof, wherein a total of three lens elements are used in said image-formation optical system, a lens barrel is provided for holding said image-formation optical system, said first positive meniscus lens takes on a circular shape as viewed from an entrance side of said imaging system, and said third negative lens is configured such that, as viewed from the entrance side of said imaging system, a length thereof in a direction corresponding to a short-side direction of an effective image pickup area of said image pickup device is shorter than a length thereof in a direction corresponding to a long-side direction of the effective image pickup device.

21. (previously presented) The image-formation optical system according to claim 1, wherein the third negative lens is a bi-concave lens.

22. (previously presented) The image-formation optical system according to claim 1, wherein the first positive meniscus lens, the second positive lens, and the third negative lens are single lenses respectively.

23. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$0.95 < \Sigma d/f < 1.25 \quad \dots (1)$$

where  $\Sigma d$  is a distance on an optical axis of the image-formation optical system from an object side-surface of the first positive meniscus lens to an image plane side-surface of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

24. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the first positive meniscus lens satisfying the following condition:

$$0.3 < r_1/f < 0.6 \quad \dots (2)$$

where  $r_1$  is a radius of curvature on an optical axis of an object side-surface of the first positive meniscus lens, and  $f$  is a focal length of the image-formation optical system.

25. (currently amended) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following conditions:

$$0.5 < f_{12} / |f_3| < 1 \quad \dots (3)$$

$$0.7 < |f_3| / f < 1.8 \quad \dots (4)$$

$$0.7 < |f_3| / f < 1.8 \quad \dots (4)$$

where  $f_{12}$  is a composite focal length of the first positive meniscus lens and the second positive lens,  $f_3$  is a focal length of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

26. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$-1 < \text{EXP} / f < -0.5 \quad \dots (5)$$

where EXP is a paraxial exit pupil position as determined on the basis of an image-formation position of the image-formation optical system relative to an object point at infinity, and  $f$  is a focal length of the image-formation optical system.

27. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$0.98 < \Sigma d / f < 1.20 \quad \dots (1-1)$$

where  $\Sigma d$  is a distance on an optical axis of the image-formation optical system from an object side-surface of the first positive meniscus lens to an image plane side-surface of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

28. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$0.32 < r_1/f < 0.55 \quad \dots (2-1)$$

where  $r_1$  is a radius of curvature on an optical axis of an object side-surface of the first positive meniscus lens, and  $f$  is a focal length of the image-formation optical system.

29. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$0.53 < f_{12}/|f_3| < 0.96 \quad \dots (3-1)$$

where  $f_{12}$  is a composite focal length of the first positive meniscus lens and the second positive lens, and  $f_3$  is a focal length of the third negative lens.

30. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$0.75 < |f_3|/f < 1.3 \quad \dots (4-1)$$

where  $f_3$  is a focal length of the third negative lens, and  $f$  is a focal length of the image-formation optical system.

31. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$-0.8 < \text{EXP}/f < -0.6 \quad \dots (5-1)$$

where EXP is a paraxial exit pupil position as determined on the basis of an image-formation position of the image-formation optical system relative to an object point at infinity, and f is a focal length of the image-formation optical system.

32. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$55^\circ < 2\omega < 70^\circ \quad \dots (6)$$

where  $\omega$  is a half angle of view, and  $2\omega$  is a total angle of view; and an electronic image pickup device located on an image side of said optical system.

33. (previously presented) An image-formation optical system comprising, in order from an object side thereof, an aperture stop, a first positive meniscus lens convex on an object side thereof, a second positive lens having an aspheric surface and a third negative lens having an aspheric surface, wherein a total of three lens elements are used, the image-formation optical system satisfying the following condition:

$$60^\circ < 2\omega < 67^\circ \quad \dots (6-1)$$

where  $\omega$  is a half angle of view, and  $2\omega$  is a total angle of view; and an electronic image pickup device located on an image side of said optical system.